

said one end of the sleeve defining a valve port for an inner valve member axially movable within the sleeve for opening and closing the valve port;

attachment means for supplying pressurized gas to the inside of the sleeve whereby the inner valve member is movable into a valve port open position by the pressurized gas;

means for moving the inner valve member into a valve port closed position;

means for moving the sleeve between its extended and its retracted positions; and

a gap between the adjacent wall of the sleeve and the extending portion of the body member, which gap is closed to the mould cavity when the sleeve member is extended and open to the mould cavity when the sleeve member is retracted, whereby in the retracted position of the sleeve, the pressurized gas within the mould cavity can vent to the atmosphere.

14. (New) A nozzle as claimed in Claim 13, wherein means for moving the sleeve between its extended and retracted positions is a reversible electric motor, the sleeve being connected to the motor by means which enable the sleeve to move linearly.

15. (New) A nozzle as claimed in claim 14, wherein when the sleeve reaches its extended position, the motor enters a stall mode.

16. (New) A nozzle as claimed in claim 14, wherein with the sleeve in its extended position, pressure on the sleeve is isolated from the motor and its gear box.

17. (New) A nozzle as claimed in Claim 14, wherein the connection means between the sleeve and the motor is a nut and spindle in driving relation, the nut being driven by the motor and the spindle being connected to the sleeve.

18. (New) A nozzle as claimed in claim 13, wherein the body member has an external thread for mounting the nozzle in a mould part of a bracket fixed thereon.

19. (New) A nozzle as claimed in claim 13, wherein the body member is bolted to a mould part.

20. (New) A nozzle as claimed in Claim 13, wherein the wall of the sleeve is tapered inwardly from the outer end of the sleeve to define a lead-in to the valve seat of the valve port.

21. (New) A nozzle as claimed in claim 13, wherein the means for moving the inner valve member into a valve port closed position is a spring.

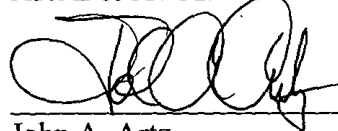
22. (New) A nozzle as claimed in Claim 13, wherein the inner valve member is a sliding fit within the sleeve, and has at least one flat extending longitudinally of the valve member to create a passage for pressurized gas through the sleeve when the inner valve member is extended by the pressure of the gas.

23. (New) A nozzle as claimed in Claim 13, wherein the outer end of the sleeve is of reduced external dimension relative to the internal dimension of the extending portion of the body member, and wherein the body member has at least one groove extending longitudinally from a position at one end where it can communicate with the reduced end portion of the sleeve when the sleeve is in its retracted position, but is precluded from said communication when the sleeve is in its extended position, to an open position at its other end where it communicates directly or indirectly with the atmosphere.

24. (New) Apparatus for gas-assisted injection moulding including a nozzle as claimed in Claim 13.

Respectfully submitted,

ARTZ & ARTZ



John A. Artz

Registration No. 25,824
28333 Telegraph Road, Ste. 250
Southfield, MI 48034
(248) 223-9500

Date: December 4, 2001